

12AU7A

Medium-Mu Twin Triode

9-PIN MINIATURE TYPE

For Applications Critical as to Microphonics

GENERAL DATA

Electrical:

Heater, for Unipotential Cathodes:

Heater arrangement	Series	Parallel	
Voltage (AC or DC)	12.6	$6.3 \pm 10\%$	volts
Current	$0.15 \pm 6\%$	0.3	amp

Direct Interelectrode Capacitances
(Approx.):^a

	Unit No.1	Unit No.2	
Grid to plate	1.5	1.5	μf
Grid to cathode and heater. . .	1.6	1.6	μf
Plate to cathode and heater . .	0.5	0.35	μf

Characteristics, Class A₁ Amplifier (Each Unit):

Plate Voltage	100	250	volts
Grid Voltage.	0	-8.5	volts
Amplification Factor.	19.5	17	
Plate Resistance (Approx.). . . .	6250	7700	ohms
Transconductance.	3100	2200	μmhos
Plate Current	11.8	10.5	ma
Grid Voltage (Approx.) for plate $\mu\text{a} = 10$	-	-24	volts

Mechanical:

Operating Position.	Any
Maximum Overall Length.	2-3/16"
Maximum Seated Length	1-15/16"
Length, Base Seat to Bulb Top (Excluding tip). .	1-9/16" \pm 3/32"
Diameter.	0.750" to 0.875"
Dimensional Outline	See General Section
Bulb.	T6-1/2
Base.	Small-Button Noval 9-Pin (JEDEC No.E9-1)
Basing Designation for BOTTOM VIEW.	9A

Pin 1-Plate of
Unit No.2

Pin 2-Grid of
Unit No.2

Pin 3-Cathode of
Unit No.2

Pins 4 & 9-Heater of
Unit No.2

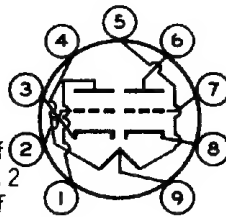
Pins 5 & 9-Heater of
Unit No.1

Pin 6-Plate of
Unit No.1

Pin 7-Grid of
Unit No.1

Pin 8-Cathode of
Unit No.1

Pin 9-Heater Tap



← Indicates a change.



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AMPLIFIER — Class A₁

Values are for Each Unit

→ Maximum Ratings, Design-Maximum Values:

PLATE VOLTAGE	330	max.	volts
CATHODE CURRENT	22	max.	ma
PLATE DISSIPATION:			
Either plate.	2.75	max.	watts
Both plates (Both units operating). . .	5.5	max.	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode.	200	max.	volts
Heater positive with respect to cathode.	200 ^b	max.	volts

Typical Operation as Resistance-Coupled Amplifier:

See RESISTANCE-COUPLED AMPLIFIER CHART No. 10
at front of this Section

Maximum Circuit Values:

Grid-Circuit Resistance:			
For fixed-bias operation.	1	max.	megohm

HORIZONTAL-DEFLECTION OSCILLATOR

Values are for Each Unit

→ Maximum Ratings, Design-Maximum Values:

For operation in a 525-line, 30-frame system^c

DC PLATE VOLTAGE.	330	max.	volts
PEAK NEGATIVE-PULSE GRID VOLTAGE.	660	max.	volts
CATHODE CURRENT:			
Peak.	330	max.	ma
Average	22	max.	ma
PLATE DISSIPATION:			
Either plate.	2.75	max.	watts
Both plates (Both units operating). . .	5.5	max.	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode.	200	max.	volts
Heater positive with respect to cathode.	200 ^b	max.	volts

Maximum Circuit Values:

Grid-Circuit Resistance	2.2	max.	megohms
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VERTICAL-DEFLECTION OSCILLATOR

Values are for Each Unit

→ Maximum Ratings, Design-Maximum Values:

For operation in a 525-line, 30-frame system^c

DC PLATE VOLTAGE.	330	max.	volts
PEAK NEGATIVE-PULSE GRID VOLTAGE.	440	max.	volts
CATHODE CURRENT:			
Peak.	66	max.	ma
Average	22	max.	ma

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PLATE DISSIPATION:

Either plate. 2.75 max. watts
Both plates (Both units operating). . . 5.5 max. watts

PEAK HEATER-CATHODE VOLTAGE:

Heater negative with respect to cathode. 200 max. volts
Heater positive with respect to cathode. 200^b max. volts

Maximum Circuit Values:

Grid-Circuit Resistance 2.2 max. megohms

VERTICAL-DEFLECTION AMPLIFIER

Values are for Each Unit

Maximum Ratings, Design-Maximum Values:

For operation in a 525-line, 30-frame system^c

DC PLATE VOLTAGE. 300 max. volts
PEAK POSITIVE-PULSE PLATE VOLTAGE^d. . . . 1200 max. volts
PEAK NEGATIVE-PULSE GRID VOLTAGE. 275 max. volts

CATHODE CURRENT:

Peak. 66 max. ma
Average 22 max. ma

PLATE DISSIPATION:

Either plate. 2.75 max. watts
Both plates (Both units operating). . . 5.5 max. watts

PEAK HEATER-CATHODE VOLTAGE:

Heater negative with respect to cathode. 200 max. volts
Heater positive with respect to cathode. 200^b max. volts

Maximum Circuit Values:

Grid-Circuit Resistance:
For cathode-bias operation. 2.2 max. megohms

^a Without external shield.

^b The dc component must not exceed 100 volts.

^c As described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communications Commission.

^d This rating is applicable where the duration of the voltage pulse does not exceed 15 per cent of one vertical scanning cycle. In a 525-line, 30-frame system, 15 per cent of one vertical scanning cycle is 2.5 milliseconds.

← Indicates a change.

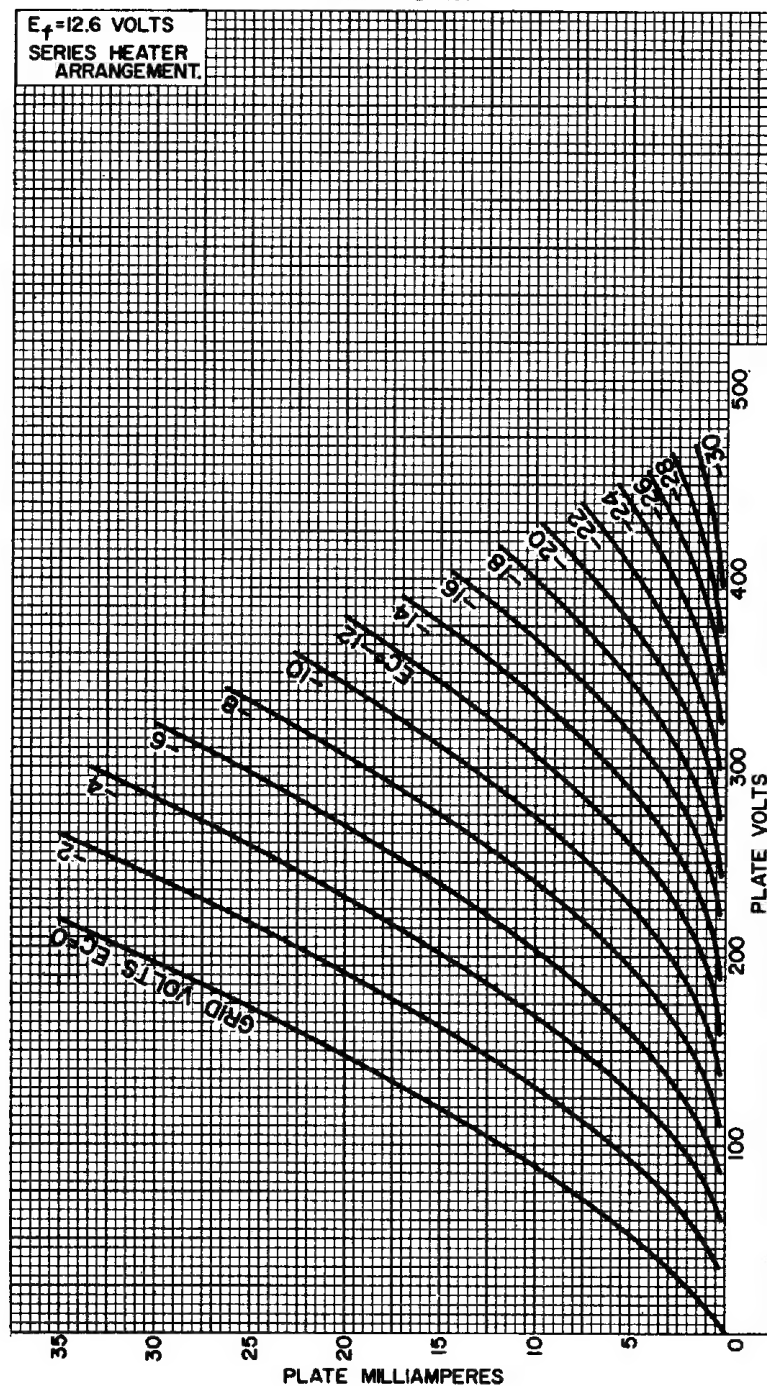


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AVERAGE PLATE CHARACTERISTICS Each Unit



92CM-10548

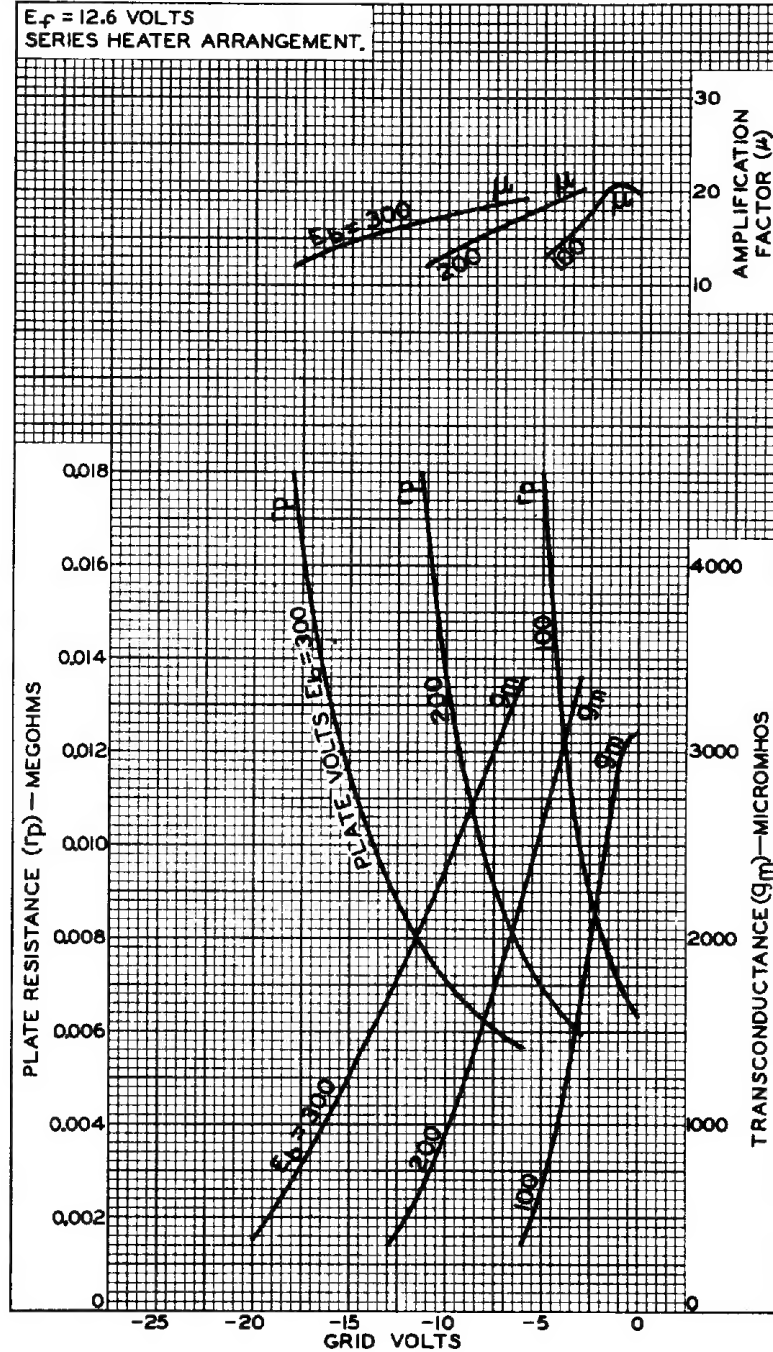
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AVERAGE CHARACTERISTICS Each Unit



92CM-8564R2



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